Claims

1. A method for operating a boosted internal combustion engine having a fuel injection device, a cylinder, a cylinder head, a piston and a combustion chamber defined between the cylinder head and the piston, in which

- a main combustion air quantity and a main fuel quantity, from which a main mixture is formed, are delivered to the combustion chamber, and

- the main mixture formed is ignited in an area of a ignition top dead center

**characterized in that**

- an additional combustion air quantity and an additional fuel quantity are introduced into the combustion chamber after the combustion of the main mixture in such a way that

- a fuel-exhaust gas/air mixture is formed,

- which is reacted in an area of a gas exchange top dead center of the piston.

2. The method as claimed in claim 1, **characterized in that** the additional fuel quantity is introduced into the combustion chamber in an area between the end of the piston expansion stroke and a final part of a piston exhaust stroke.

3. The method as claimed in claim 1 or 2, **characterized in that** the additional fresh air quantity is delivered to the

combustion chamber in an area between a final part of the expansion stroke and a final part of the exhaust stroke.

4. The method as claimed in any one of the preceding claims, **characterized in that** at least one exhaust valve and at least one inlet valve are opened during the introduction of the additional fresh air quantity and/or the additional fuel quantity.

5. The method as claimed in claim 4, **characterized in that** during the introduction of the additional fresh air quantity and/or the additional fuel quantity the exhaust valve is opened first and then the inlet valve.

6. The method as claimed in any one of the preceding claims, **characterized in that** an injection of fuel into an intake pipe of the internal combustion engine or directly into the combustion chamber is undertaken by means of the fuel injection device.

7. The method as claimed in any one of the preceding claims, **characterized in that** the internal combustion engine is operated with a compression ratio of between 8 and 16, in particular between 8 and 13.